

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

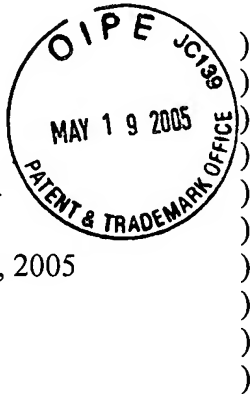
In re Application of

MIHAN et al.

Serial No.: 10/522,574

Filing Date: January 28, 2005

For: MONOCYCLOPENTADIENYL COMPLEX



MAIL STOP IDS

Honorable Comm'r. of Patents
PO Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This subject Information Disclosure Statement is submitted in connection with applicants' continuing duty of disclosure under 37 C.F.R. §1.56.

LISTING OF RELEVANT DOCUMENTS:

The relevant documents are listed in the attached Form PTO-1449.

REMARKS:

The documents (A) and (B) are believed to be relevant to the claimed invention. Document (C) has been found on page 1, line 20 and (D) has been found as well on page 1, line 21 in the specification. Cited documents (E) through (A16) are believed to be relevant to the claimed invention.

EP 0 742 046 is the European counterpart to (F), and (AD) is the counterpart to (H), (K), (O), (T), (U), (A5), (A6) and (A7). WO 96/00243 is equivalent to (J); and WO

97/36937 is the PCT counterpart to (M), document (P) and (A3). Document (Q), (Y), (A4) and (A14) are the counterparts to (AF); and document (A15) are the US counterparts to WO 00/05277. Document (AA) is the foreign counterpart to (A3), (P) and (M); which have been found in the specification on page 33, line 23.

WO 00/24787 is the PCT counterpart to documents (A9) through (A11), and (A16); WO 01/41920 on the other hand is the counterpart to documents (X) and (A13).

Document (S) is equivalent to (AN), which is listed on page 34, line 8 in the specification; and (V) to WO 98/40419, and (AB) is the Canadian counterpart to WO 91/09882. Document (AC) is listed in the specification on page 46, line 32 and is the PCT counterpart to (A1).

Document (AE) is found in the specification on page 55, line 37 and is a counterpart to document (A8), (R) and (G). Documents (AG) and (AH) are found to be relevant to the claimed invention and (AI) is the Canadian counterpart to (AO), which has been found on page 6, lines 26 and page 46, line 19 in the specification. (AJ) is found page 26, line 38, page 30, line 2, page 31, line 26 and page 33, line 37 in the specification. Document (AK) is listed on page 33, line 6; and (AL) is listed on page 31, line 5 in the specification. (AM), the PCT counterpart to (A13) and (X) is cited on page 34, line 25, and page 46, line 28 in the specification.

AU 3,039,300 is the Australian counterpart to (AP) and document (L), US counterpart to (AQ) which has been found on page 2, line 9; and document (AS) listed on page 2, line 5; page 15, line 11 and page 46, line 14 in the specification. (AR) found on page 2, line 11 is the PCT counterpart to (I); (AU) and (AX) have been found relevant to the claimed invention. Documents (AV) and (AW) are cited on page 26, line 8-10 and page 53, line 8 in the specification.

Documents (BA) is listed in the specification on page 1, line 36; and documents (BB) through (BC) are found to be relevant to the claimed invention. (BD) is listed on page 2, lines 18-20 and page 46, lines 10-11; and document (BE) is cited on page 2, line 20, page 10, lines 23-25 and page 46, line 10.

Page 2, lines 23-24 of the specification lists (BF) and page 1, lines 16-17 lists document (BG). (BH) is cited on page 8, lines 26-28, (BI) on page 16, lines 11-12, and (BJ) on page 6, lines 27-28 in the specification. Documents (BK) through (BS) are found to be relevant to the claimed invention.

A copy of the International Search Report is attached.

Entry is respectfully solicited.

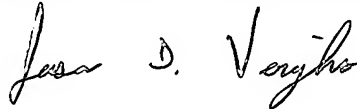
FEE UNDER 37 C.F.R. §1.17(p):

Since this Information Disclosure Statement is submitted before the mailing of a first Office action on this merits, a fee under 37 C.F.R. §1.17(p) is not required (37 C.F.R. §1.97(b)).

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 14.1437. Please credit any excess fees to such deposit account.

Respectfully submitted,

NOVAK DRUCE DeLUCA & QUIGG, LLP

A handwritten signature in cursive script that reads "Jason D. Voight".

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Form PTO-1449				DOCKET NUMBER: LU6046/Doe		APPLICATION NUMBER: 10/522,574	
INFORMATION DISCLOSURE CITATION IN AN APPLICATION <i>(use several sheets if necessary)</i>				APPLICANT: MIHAN et al.		CONFIRMATION NUMBER:	
				FILING DATE: January 28, 2005		GROUP ART UNIT:	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLAS S	FILING DATE IF APPROPRIATE	
A	3,242,150	3/22/1966	SCOGGIN, J. S.	260	88.2		
B	3,248,179	4/26/1966	NORWOOD, D.D.	23	285		
C	3,709,853	1/9/1973	KARAPINKA, G.L.	260	88.2		
D	4,015,059	3/29/1977	KAROL	526	130		
E	5,547,675	8/20/1996	CANICH	502	117		
F	5,808,122	9/15/1998	HERRMANN et al.	556	58		
G	5,698,642	12/16/1997	GOVONI et al.	526	65		
H	5,955,555	9/21/1999	BENNETT	526	133		
I	5,986,029	11/16/1999	van BECK et al.	526	160		
J	6,087,291	7/11/2000	SPECA et al.	502	104		
K	6,214,761 B1	4/10/2001	BENNETT	502	117		
L	6,255,418 B1	7/3/2001	JOLLY et al.	526	160		
M	6,255,246 B1	7/3/2001	DEVORE et al.	502	152		
N	6,284,905 B1	9/4/2001	ASHE, III et al.	556	7		
O	6,297,338 B1	10/2/2001	COTTS et al.	526	352		
P	6,365,779 B2	4/2/2002	DEVORE et al.	568	1		
Q	6,374,406 B1	4/23/2002	ASHE, III et al.	502	103		
R	6,413,477	7/2/2002	GOVONI et al.	422	131		
S	6,417,302 B1	7/9/2002	BOHNEN	526	160		
T	6,417,305 B2	7/9/2002	BENNETT	526	161		
U	6,423,848 B2	7/23/2002	BENNETT	546	329		
V	6,444,606 B1	9/3/2002	BINGEL et al.	502	152		
W	6,492,639 B1	12/10/2002	BINGEL et al.	556	11		
X	6,548,442 B1	4/15/2003	McDANIEL et al.	502	113		
Y	6,589,905 B1	7/8/2003	FISCHER et al.	502	300		
Z	6,756,505 B1	6/29/2004	KRISTEN et al.	556	7		
A1	6,784,261 B1	8/31/2004	SCHOPF et al.	526	16		
A2	2001/0000519 A1	4/26/2001	BENNETT	526	329		
A3	2001/0007044 A1	7/5/2001	DEVORE et al.	568	1		
A4	2001/0025115 A1	9/27/2001	CAMPBELL, JR. et al.	556	7		
A5	2002/0007034 A1	1/17/2002	COTTS et al.	526	352		
A6	2002/0013431 A1	1/31/2002	BENNETT	526	90		
A7	2002/0058584 A1	5/16/2002	BENNETT et al.	502	117		
A8	2002/0061264 A1	5/23/2002	GOVONI et al.	422	131		
A9	2002/0072578 A1	1/13/2002	WU et al.	526	183		

	A10	2002/0086957 A1	7/4/2002	WU et al.	526	110	
	A11	2002/0132945 A1	9/19/2002	WU et al.	526	183	
	A12	2003/0009046 A1	1/9/2003	BINGEL et al.	556	436	
	A13	2003/0171511 A1	9/11/2003	McDANIEL et al.	526	127	
	A14	2003/0199650 A1	10/23/2003	DEVORE et al.	526	160	
	A15	2003/0236164 A1	12/25/2003	FISCHER et al.	502	439	
	A16	2004/0002420 A1	1/1/2004	WU et al.	502	171	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	NAME	CLASS	SUBCLAS S	TRANSLATION	
							YES	NO
	AA	WO 97/36937	10/97	PCT				
	AB	CA 2 072 752	07/91	Canada				
	AC	WO 01/09148	02/01	PCT				
	AD	WO 98/27124	06/98	PCT				
	AE	WO 97/04015	02/97	PCT				
	AF	WO 00/20426	04/00	PCT				
	AG	WO 00/35928	06/00	PCT				
	AH	DE 198 58 016 A1	06/00	Germany				
	AI	CA 2 271 861 A1	05/98	Canada				
	AJ	WO 00/31090	06/00	PCT				
	AK	WO 91/09882	07/91	PCT				
	AL	WO 00/24787	05/00	PCT				
	AM	WO 01/41920 A1	06/01	PCT				
	AN	WO 99/06414	02/99	PCT				
	AO	WO 98/22486	05/98	PCT				
	AP	WO 00/35928	06/00	PCT				
	AQ	DE 196 30 580 A1	05/98	Germany				
	AR	WO 96/13529	05/96	PCT				
	AS	DE 197 10 615 A1	09/98	Germany				
	AT	EP 0 742 046 A2	11/96	European				
	AU	EP 1 117 699 B1	09/04	European				
	AV	WO 98/40419	09/98	PCT				
	AW	WO 96/00243	01/96	PCT				
	AX	WO 97/06297	02/97	PCT				

OTHER DOCUMENTS

EXAMINER INITIAL	AUTHOR	DOCUMENT
BA	Abstract	Heterocyclic Metallocenes and polymerization catalysts (PCT/EP 97/06297)
BB	Theopald et al.	"Constrained Geometry Chromium Catalysts for Olefin Polymerization", Department of Chemistry and Biochemistry, Center for Catalytic Science and Technology, University of Delaware, Newark, Delaware 19716, 15, 5284-5286, (1996)
BC	Lettau et al.	"Chemie der Heterocyclen", 1 st Edition, Weinheim, VEB (1979)

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	BD	Jutzi et al.	"Cyclopentadienyl compounds with nitrogen donors in the side-chain", Fakultät für Chemie der Universität Bielefeld, 500, S. 175-185, Sec. 3, (1995)
	BE	Enders et al.	"8-Quinolylcyclopentadienyl, a Ligand with a Tailored Fit for Chelate Complexes", Anorganisch-Chemisches Institut der Universität, 129, S. 459-463, (1996)
	BF	Blais et al.	"Pendent Aminoalkyl-Substituted Monocyclopentadienyltitanium Compounds and Their Polymerization Behavior", Department of Chemistry, University of Massachusetts, Amherst Massachusetts 01003 (1998), 17 – S. 3775-3783
	BG	Kirk-Othmer, B.	"High Pressure (Low and Intermediate Density) Polyethylene" in ECT 2 nd ed., under "Olefin Polymers," Vol. 14, pp. 217-241, by P. L. Clegg, Imperial Chemical Industries Ltd., Encyclopedia of Chemical Technology, 1981, vol. 16, S. 402
	BH	Halterman et al.	"Synthesis and Applications of Chiral Cyclopentadienylmetal Complexes", Department of Chemistry and Biochemistry, -92, 1992, S. 965-994, (1992)
	BI	Strauss et al.	"The Search for Larger and More Weakly Coordinating Anions", Department of Chemistry, Colorado State University, Fort Collins, Colorado 80523 (1993), S. 927-942
	BJ	Ewen et al.	"Expanding the Scope of Metallocenes Catalysis: Beyond Indenyl and Fluorenyl Derivatives", Catalyst Research Corporation, Springer Verlag (1999), S. 150 ff
	BK	Braunschweig et al.	"The chemistry of [1]borametallocenophanes and related compounds", Institut für Anorganische Chemie der Universität Würzburg, Vol. 680, no. 1-2, 2003, S. 31-42 (2003)
	BL	Duchateau et al.	"Synthesis of Cyclopentadienyl-, Indenyl-, and Fluorenylbis (pentafluorophenyl)boranes as Ligands in Titanium and Zirconium Half-Sandwich Complexes. The Crystal Structures of ...", School of Chemistry, University of Leeds, LS2 9JT Leeds, United Kingdom, 16 (23), S. 4995-5005 (1997)
	BM	Zi et al.	"Synthesis, Structural Characterization, and Catalytic Property of Group 4 Metal Carborane Compounds with a ...", Department of Chemistry, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China 21 (19), S. 3850-3855 (2002)
	BN	Hartwig et al.	"Structural and Reaction Chemistry of Tungstenocene Boryl Complexes", Department of Chemistry, Yale University, New Haven 15 (25) S. 5350-5358 (1996)
	BO	Frieser et al.	Frieser + Frieser, 3 rd - "Lehrbuch der Organischen Chemie – Heterocyclen" (1957); revised ed., Weinheim (1957)
	BP	Wiesenfeldt et al.	"XVII – Racemic and meso diastereomers of group IV metallocene ...", Fakultät für Chemie, Universität Konstanz, Journal of Organometallic Chemistry 369, 1989, S. 359-370 (1989)
	BQ	Small et al.	"Highly Active Iron and Cobalt Catalysts for the Polymerization of Ethylene", Department of Chemistry, University of North Carolina (1998); J. Am. Chem. Soc. 120, S. 4049ff, (1998)
	BR	Britovsek et al.	"Novel olefin polymerization catalysts based on iron and cobalt", Department of Chemistry Imperial College, Exhibition Road, South Kensington, London (1998); J. Chem. Soc., Chem. Commun., 1998, S. 849
	BS	Cervantes et al.	"Large-scale dynamic optimization of a low density polyethylene plant", Chemical Engineering Department, Carnegie Mellon University, Pittsburg, PA 15213 (2000)
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.			